IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Attorney Docket No. 133114-02CP

Group Art Unit: 3736

Examiner: Robert L. Nasser

Inventors: Torok *et al.*

Serial No.: 09/758,978

Filed: January 12, 2001

For: SYSTEM FOR IDENTIFYING PREMATURE RUPTURE OF MEMBRANE DURING PREGNANCY

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

Appellants respectfully submit the present Reply to the Examiner's Answer mailed August 1, 2004.

New Points Of Argument – Newly-Cited Reference

In his Answer, the Examiner stated

> "[I]f appellant were successful in establishing that bromothymol blue is a known skin irritant, the claims would still be subject to a rejection under 35 U.S.C. 103 as being obvious over Yazaki in view of US Patent 5,660,790 to Lawrence (not of record), as Lawrence teaches the equivalence of bromothymol blue and several other chemical pH indicators that change color with the pH levels, so[me] of which are the same as those used by applicant, and accordingly, are non-irritating."
> (Examiner's Answer, page 5, lines 5-11)

Appellants respectfully note the following.

A. Bromothymol Blue

In their entered Amendment mailed October 25, 2002, in which all of the independent claims were amended to specify that the pH-sensitive material was "non-irritating to the woman,"[1] Appellants stated that in Yazaki the "pH indication sheet is comprised of a sheet 7 which is wet with bromothymol blue (BTB)...[and]. .the sheet 6 is placed underneath the unwoven cloth 5 and, thus, will not be brought to contact to the skin of a wearer." (Page 4, lines 19-23) Conversely, according to Appellants' article, "the pH-sensitive material will be in direct contact with the skin of the woman..." (Page 4, lines 27-28) In their non-entered Amendment mailed June 10, 2003, Appellants stated "Yazaki teaches nothing about a pH-sensitive material that is non-irritating to the wearer." (Page 5, lines 12-13)

Since their first substantive response in the prosecution of the instant application Appellants have directed attention to the fact that their pH-sensitive material is different from that used by Yazaki in that it is *non-irritating*, and thus was different – by definition – from the effects of bromothymol blue. That this was so must have been understood by the Examiner who never questioned Appellants' position. In any event, Appellants respectfully request that the Board

[1] Each of the pending independent claims – Claims 2, 7, 13, and 31 – was amended in the Amendment mailed October 25, 2003, Appellants' first substantive amendment, to define the pH material as being *non-irritating to the woman*. Whether direct contact is specified in the claim or not, each of the independent claims defines the pH-sensitive material as being applied to the article which, by necessity, must be applied to the *surface of the article* and which, by further necessity, *must be worn in direct contact with the wearer*. It is not possible for the article to be used in any other way and still achieve its intended purpose of "identifying the premature rupture of a membrane during pregnancy."

take official notice of the known and readily-ascertainable fact that bromothymol blue is a skin irritant.[2]

In any event, Appellants also note that evidence of the irritating characteristics of bromothymol blue *may* have been submitted in USSN 09/595,594 (co-owned by Appellants herein), now abandoned, which is the parent case to the patent application under appeal. This application which was a continuation of USSN 09/351,875 (now issued as USPN 6,149,590), which was a continuation of USSN 09/120,829 (now issued as USPN 6,126,597). The Appellants are trying to obtain a copy of the file history for USSN 09/595,594 to confirm this one way or the other and will promptly submit a clarifying Supplemental Reply Brief.

B. Lawrence *et al.*

The Examiner stated that even if Appellants established that bromothymol blue was a known skin irritant, the claims would still be subject to a rejection under 35 U.S.C. Section 103 as being obvious over Yazaki in view of Lawrence *et al.* "for example, as Lawrence teaches the *equivalence* of bromothymol blue and several other chemical pH indicators that change color with the pH levels,

[2] Regarding the taking of "judicial notice," "[a]s to the propriety of the board's taking such notice at all, this court has already previously determined that the Patent Office appellate tribunals, where it is found necessary, may take notice of facts beyond the record which, while not generally notorious, are capable of such instant and unquestionable demonstration as to defy dispute." *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970); see also MPEP Section 2144.03. In this instance, that bromothymol blue may be identified as being a skin irritant may be readily ascertained by, for example, entering "bromothymol blue" and "irritant" into an Internet search engine.

so[me] of which are the same as those used by applicant, and accordingly, are non-irritating." (Page 5, lines 8-11)

Rather than being applicable as a persuasive Section 103 reference, Appellants respectfully submit that the patent to Lawrence *et al.* only adds support to the allowability of the application over the prior art. Appellants have argued that Yazaki teaches only the use of an irritating pH-sensitive material, bromothymol blue, a teaching that is contrary to the use of a non-irritating pH-sensitive material as claimed by Appellees, and is thus inapplicable as a reference for rejection under 35 U.S.C. Section 102(e). With the exceptions only of (1) nitrazine yellow (Appellants' preferred material; please refer to, for example, page 7, lines 14-15, of the application as filed) and (2) bromochlorophenol blue[3], the toxicological properties of which "have not been fully investigated," *each of the indicators list in Lawrence et al. (col. 5, lines 50-67) can be irritating to the skin:*

Indicator	CAS Number	Potential Health Effect	Exhibit No.
Acid blue 92	3861-73-2	"Skin: May cause skin irritation."	1
Acid blue 29	5850-35 1	"Skin: May be harmful if absorbed through the skin. May cause irritation."	2
Acid alizarin violet N	2092-55-9	"Irritant." "Personal protection – Safety glasses, gloves."	3
Bromophenol blue	155-39-9	"Primary irritant effect: on the skin: May cause irritation."	4
Bromochloro-phenol blue	102185-52-4	"Skin: No information regarding skin irritation and other potential effects	5

[3] Even if non-irritating, the pH range of this indicator is between 3.0 and 4.6, making it unsuitable for use in detecting amniotic fluid which has a pH range of 7.0-7.5. (Please see attached Exhibit A).

		was found"	
Bromocresol green	76-60-8	"Irritating to eyes and skin."	6
Chlorophenol red	4430-20-0	"Skin: Causes skin irritation."	7
Bromocresol purple	115-40-2	"Primary irritant effect: on the skin: Irritant to skin and mucous membranes."	8
Alizarin complexone dehydrate	3952-78-1	"Skin: May cause skin irritation."	9
Alizarin red S monohydrate	130-22-3	"Irritating to eyes, respiratory system and skin." "Causes skin irritation." "May be harmful if absorbed through the skin."	10
Bromothymol blue	76-59-6	"Toxicology: May act as irritant."	11
Brilliant yellow	3051-11-4	"Contact with eyes and skin may result in irritation."	12
Phenol red	34487-61-1	"Skin Contact: May cause irritation with redness and pain."	13
Cresol red	1733 12-6	"Primary irritant effect: on the skin: May cause irritation."	14
m-cresol purple	2303-01-7	"Skin Contact: May cause irritation with redness and pain.:	15
Thymol blue	76-61-9	"Skin: May cause irritation."	16

Appellants respectfully submit that the patent to Lawrence *et al.*, if combined with Yazaki, would only serve to further support Appellants' position that the relevant prior art teaches *only* the use of irritating indicators and teaches *away from* the use of non-irritating indicators.

Because Yazaki does not disclose what is claimed, because Yazaki would not otherwise render the present invention obvious, and because the combination of Yazaki and Lawrence *et al.* reinforces the position that the prior art fails to teach, suggest, or otherwise render obvious the use of a non-irritating pH-sensitive material for use in "identifying the premature rupture of a membrane

during pregnancy," Appellants respectfully submit that the Examiner's rejection on the basis of prior art is in error and should be reversed.

CONCLUSION

Appellants respectfully submit that the appealed application is in condition for allowance and that the Examiner's outstanding rejections of this application are in error and should be reversed.

Appellants do not believe that an Oral Hearing will be necessary unless deemed so by the Board.

Respectfully submitted,

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Registration No. 34,881
Attorney for Appellants

BUTZEL LONG
100 Bloomfield Hills Parkway
Suite 200
Bloomfield Hills, MI 48304
(248) 258-4490

Dated: October 3, 2005

pH Indicators

Indicator	Acid Color	Low pH	High pH	Base Color
Methyl violet	yellow	0.0	1.6	blue
Cresol red (1st range)	red	0.0	1.8	yellow
Crystal violet	yellow	0.0	1.6	blue
Malachite green	yellow	0.2	1.8	blue-green
Methyl green	yellow	0.2	1.8	blue
Metanil yellow	red	1.2	2.4	yellow
m-Cresol purple (1st range)	red	1.2	2.8	yellow
Metacresol purple (1st range)	red	1.2	2.8	yellow
Thymol blue (1st range)	red	1.2	2.8	yellow
4-o-Tolylazo-o-toluidine	orange	1.4	2.8	yellow
Orange IV (Tropaolin 00)	red	1.4	3.2	yellow
2,6-Dinitrophenol	colorless	1.7	4.4	yellow
Benzyl orange	red	1.9	3.3	yellow
2,4-Dinitrophenol	colorless	2.0	4.7	yellow
Benzopurpurine 4B	violet	2.2	4.2	red
p-Dimethylaminoazobenzene	red	2.9	4.0	yellow
Bromochlorophenol blue	yellow	3.0	4.6	purple
Bromophenol blue	yellow	3.0	4.6	blue
Congo red	blue	3.0	5.0	red
Methyl orange	red	3.1	4.4	yellow
Ethyl orange	red	3.4	4.8	yellow
Bromocresol green	yellow	3.8	5.4	blue
Rocazurin	orange	3.8	6.4	violet
2,5-Dinotrophenol	colorless	4.0	5.8	yellow
Methyl red	red	4.2	6.3	yellow
Azolitmin (litmus)	red	4.4	6.6	blue
Alizarin red S	yellow	4.6	6.0	red
Propyl red	red	4.6	6.6	yellow
Chlorophenol red	yellow	4.6	7.0	red
p-Nitrophenol	colorless	4.7	7.9	yellow
Bromophenol red	yellow	4.8	6.8	purple
Bromocresol purple	yellow	5.2	6.8	purple
p-Nitrophenol	colorless	5.4	6.6	yellow
Bromothymol blue	yellow	6.0	7.6	blue
Brilliant yellow	yellow	6.6	7.8	red

Exhibit - A
USSN 09/758,978
Torak *et al.*

New Page 2

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Acid Blue 92
Catalog Numbers:
AC198630000, AC198630050, AC198631000
Synonyms:
2,7-Naphthalenedisulfonic acid,4-((4-anilino-5-sulfo-1-naphthyl)-5 hydroxy-trisodium salt ; C.I. 13390 ; Coomassie Blue
Company Identification (Europe): Acros Organics BVBA
Janssen Pharmaceuticalaan 3a
2440 Geel, Belgium
Company Identification (USA): Acros Organics
One Reagent Lane
Fairlawn, NJ 07410
For information in North America, call: 800-ACROS-01
For information in Europe, call: 0032(0) 14575211
For emergencies in the US, call CHEMTREC: 800-424-9300
For emergencies in Europe, call: 0032(0) 14575299

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
3861-73-2	Acid Blue 92	100.0	223-378-0

Hazard Symbols: None Listed.
Risk Phrases: None Listed.

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Appearance: Dark Blue Powder.
Caution! The toxicological properties of this material have not been fully investigated. May cause respiratory and digestive tract irritation. May cause eye and skin irritation.
Target Organs: None.

Potential Health Effects
Eye:
May cause eye irritation.
Skin:
May cause skin irritation.
Ingestion:

Exhibit - 1
USSN 09/758,978
Torok et al.

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 1/17/1992
REVISION: 1

****

1. IDENTIFICATION:

NAME: ACID BLUE 29

CAS #: 5850-35-1

MOLECULAR FORMULA: C22H16N6O9S2

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
ACID BLUE 29 5850-35-1	100.0	NA	NA

3. PHYSICAL DATA:

BOILING POINT: NA

SPECIFIC GRAVITY (H2O = 1): NA

VAPOR PRESSURE (MM HG.): NA

MELTING POINT: NIF

VAPOR DENSITY (AIR = 1): NA

SOLUBILITY IN WATER: YES

APPEARANCE AND ODOR: BLACK POWDER

NA = Not Applicable
NL = Not Listed

NE = Not Established
NIF = No Information Found

Exhibit - 2
USSN 09/758,978
Torok et al.

MSDS: ACID BLUE 29

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? YES SKIN? YES INGESTION? YES

CARCINOGENICITY: NTP? NO IARC? NO

ACUTE EFFECTS OF OVEREXPOSURE:

EYES: MAY CAUSE IRRITATION.

SKIN: MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN. MAY CAUSE IRRITATION.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE IRRITATION.

INGESTION: MAY BE HARMFUL IF SWALLOWED. MAY CAUSE IRRITATION.

CHRONIC EFFECTS OF EXPOSURE: THE TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

TOXICITY DATA: NO DATA AVAILABLE.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NIF

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: IN CASE OF EYE CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

SKIN CONTACT: IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF BREATHING BECOMES DIFFICULT, CALL A PHYSICIAN.

INGESTION: IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.

5. FIRE AND EXPLOSION HAZARD:

FLASHPOINT (METHOD USE): NA

FLAMMABLE LIMITS: NA LEL NA UEL NA

EXTINGUISHING MEDIA: WATER SPRAY, CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

5. FIRE AND EXPLOSION HAZARD (CONT):

Safety (MSDS) data for acid alizarin violet N

General

Synonyms: 4-hydroxy-3-((2-hydroxy-1-naphthalenyl)azo)-benzenesulfonic acid monosodium salt, acid alizarin violet B, acid alizarin violet, acid chrome violet K, acid chrome violet N, chromal violet B, C.I. 15670, yodochrome violet B, C.I. mordant violet 5, numerous further names
Use: indicator, stain
Molecular formula: $C_{16}H_{12}N_2O_5S$
CAS No: 2092-55-9
EINECS No: 218-246-4

Physical data

Appearance: red powder
Melting point:
Boiling point:
Vapour density:
Vapour pressure:
Density (g cm^{-3}):
Flash point:
Explosion limits:
Autoignition temperature:
Water solubility:

Stability

Stable. Incompatible with strong oxidizing agents.

Toxicology

Irritant.

Exhibit - 3
USSN 09/758,978
Torok et al.

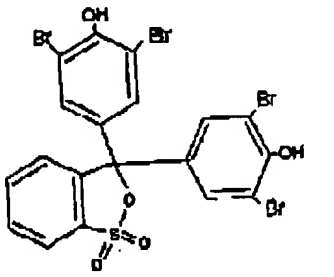
Bromo phenol Blue

NILE CHEMICALS

BROMO PHENOL BLUE

SPECIFICATION SHEET

CAS No.	115 - 39 - 9
Chemical Formula	$C_{19}H_{10}Br_4O_5S$
Molecular Weight	669.98
Melting Point	272 - 273° c
Dye Content	~95%
Transition Range	pH 3.0 - 4.6 Greenish Yellow - Reddish Blue
Absorption Max (pH3.0)	434 - 439 nm
Absorption Max (pH4.6)	590 - 593 nm
Absorptivity (1%,1cm) pH 3.0	350 - 385
Absorptivity (1%,1cm) pH 4.6	940 - 1000
Loss On Drying (110° c)	<1%



PRODUCT LIST HOME

BRIEF MSDS

Hazards identification

- Hazard description:- Not applicable
  Information pertaining to particular dangers for man and environment: - Not applicable

Toxicological information

- Acute toxicity:
  Primary irritant effect:
  on the skin: May cause irritation
  on the eye: May cause irritation
  Sensitization: No sensitizing effects known.

Transport information

Not a hazardous material for transportation.

- DOT regulations:
  Hazard class: None
  Land transport ADR/RID (cross-border)
  ADR/RID class: None
  Maritime transport IMDG:

Exhibit - 4
USSN 09/758,978
Torok et al.

Material Safety Data Sheet
Bromochlorophenol blue, water soluble

ACC# 42758

Section 1 - Chemical Product and Company Identification

MSDS Name: Bromochlorophenol blue, water soluble
Catalog Numbers: AC199680000, AC199680010, AC199680050
Synonyms: None
Company Identification:
Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410
For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
2553-71-1	Bromochlorophenol blue	100.0	219-861-0

Hazard Symbols: None listed.
Risk Phrases: None listed.

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: black powder. **Caution!** The toxicological properties of this material have not been fully investigated.
Target Organs: None.

Potential Health Effects
Eye: No information regarding eye irritation and other potential effects was found.
Skin: No information regarding skin irritation and other potential effects was found.
Ingestion: The toxicological properties of this substance have not been fully investigated.
Inhalation: The toxicological properties of this substance have not been fully investigated.
Chronic: No information found.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.
Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid

Exhibit - 5
USSN 09/738,978
Tarok et al.

Bromocresol Green

MATERIAL SAFETY DATA SHEET

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - -

CATALOG #: 02559

NAME: BROMOCRESOL GREEN SOLUTION, READY-TO-USE

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -

CAS #: 76-60-8

EC NO: 200-972-6

HAZARDOUS INGREDIENTS

CONTAINS 2-PROPANOL (ISOPROPYL ALCOHOL), CHEMICAL ABSTRACTS REGISTRY NUMBER 67-63-0.

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -

LABEL PRECAUTIONARY STATEMENTS

FLAMMABLE (USA)

HIGHLY FLAMMABLE (EU)

IRRITANT

IRRITATING TO EYES AND SKIN.

VAPORS MAY CAUSE DROWSINESS AND DIZZINESS.

TARGET ORGAN(S):

NERVES

KIDNEYS

SKIN IRRITANT.

KEEP CONTAINER TIGHTLY CLOSED.

KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.

AVOID CONTACT WITH SKIN AND EYES.

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - -

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.

CALL A PHYSICIAN.

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF

Exhibit - 6
USSN 09/758,978
Torok et al.

Material Safety Data Sheet
Chlorophenol Red, Indicator Grade

ACC# 72272

Section 1 - Chemical Product and Company Identification

MSDS Name: Chlorophenol Red, Indicator Grade
Catalog Numbers: AC190040000, AC190040050, AC190040100, AC95329?8, AC9655454, AC9681524, XXAC19004-40, XXAC1900410K, XXAC1900415K
Synonyms: CPR; 3'-3'-Dichlorophenylsulfonaphthalein
Company Identification:
Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
For Information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
4430-20-0	Chlorophenol Red	ca 100	224-619-2

Hazard Symbols: XI
Risk Phrases: 36/38

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: brown solid. May cause respiratory and digestive tract irritation. The toxicological properties of this material have not been fully investigated. Causes eye and skin irritation.

Warning!
Target Organs: No data found.

Potential Health Effects
Eye: Causes eye irritation.
Skin: Causes skin irritation.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. The toxicological properties of this substance have not been fully investigated.
Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.
Chronic: No information found.

Exhibit - 7
USSN 09/758,978
Torok et al.

Section 4 - First Aid Measures

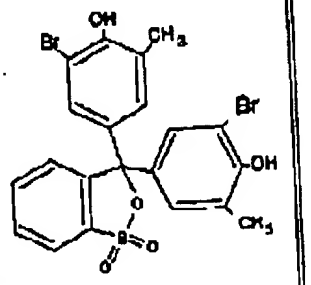
Bromo cresol purple

NILE CHEMICALS

BROMO CRESOL PURPLE

SPECIFICATION SHEET

CAS No.	115 - 40 - 2
Chemical Formula	$C_{21}H_{16}Br_2O_5S$
Molecular Weight	540.24
Melting Point	240° c
Dye Content	~95%
Transition Range	pH 5.2 - 6.8 Greenish Yellow to Purple
Absorption Max(pH5.2)	427 - 431 nm
Absorption Max(pH6.8)	588 - 590 nm
Absorptivity(1%,1cm)pH 5.2	400 - 450
Absorptivity(1%,1cm)pH 6.8	1000 - 1100
Loss On Drying	<1%



PRODUCT LIST HOME

Hazards identification

- Hazard description: Xi Irritant.
  Information pertaining to particular dangers for man and environment
  R 36/37/38 Irritating to eyes, respiratory system and skin.

Toxicological information

- Acute toxicity:
  Primary irritant effect:
  on the skin: Irritant to skin and mucous membranes.
  on the eye: Irritating effect.
  Sensitization: No sensitizing effects known.

Transport information

Not a hazardous material for transportation.

- DOT regulations:
  Hazard class: None

  Land transport ADR/RID (cross-border)
  ADR/RID class:
  None
- Maritime transport IMDG:
- IMDG Class: None

Exhibit - 8
USSN 09/758,978
Torok et al.

Material Safety Data Sheet
Alizarin Complexone Dihydrate, Indicator Grade

ACC# 96598

Section 1 - Chemical Product and Company Identification

MSDS Name: Alizarin Complexone Dihydrate, Indicator Grade
Catalog Numbers: AC155830000, AC155830010, AC155830050
Synonyms: (3,4-Dihydroxy-2-Anthraquinonyl)methyliminodiacetic Acid Dihydrate; Alizarin Complexon; Alizarine Fluorine Blue.
Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
3952-78-1	Alizarin Complexone Dihydrate	>99.00	223-544-2

Hazard Symbols: None listed.
Risk Phrases: None listed.

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: orange-yellow powder. **Caution!** The toxicological properties of this material have not been fully investigated. May cause eye and skin irritation. May cause respiratory and digestive tract irritation.
Target Organs: No data found.

Potential Health Effects
Eye: Dust may cause mechanical irritation. The toxicological properties of this material have not been fully investigated.
Skin: May cause skin irritation. The toxicological properties of this material have not been fully investigated.
Ingestion: May cause digestive tract disturbances. The toxicological properties of this subst have not been fully investigated.
Inhalation: Dust is irritating to the respiratory tract. May cause respiratory tract irritation. toxicological properties of this substance have not been fully investigated.
Chronic: No information found.

Section 4 - First Aid Measures

Exhibit - 9
USSN 09/758,978
Torok et al.

Alizarin Red S, monohydrate, certified

Valid 11/2001 - 01/2002

Aldrich Chemical Co., Inc.
1001 West St. Paul
Milwaukee, WI 53233 USA
Tel: 414-273-3850

MATERIAL SAFETY DATA SHEET

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - -
CATALOG #: 119963
NAME: ALIZARIN RED S MONOHYDRATE, CERTIFIED
SECTION 2. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #:NONE
MF: C14H8O7S
EC NO: 204-981-8

SYNONYMS

ACID RED ALIZARINE * ANCOQUINONE RED S * ALIZARIN CARMINE (BIOLOGICAL STAIN) * ALIZARINE CARMINE INDICATOR * ALIZARINE RED A * ALIZARINE RED AS * ALIZARINE RED INDICATOR * ALIZARINE RED S (BIOLOGICAL STAIN) * ALIZARINE RED S SODIUM SALT * ALIZARINE RED SW * ALIZARINE RED SZ * ALIZARINE RED W * ALIZARINE RED WA * ALIZARINE RED FOR WOOL * ALIZARINE RED WS * ALIZARINE S * ALIZARINE S EXTRA CONC. A EXPORT * ALIZARINE S EXTRA PURE A * ALIZARIN RED S * ALIZARINROT-S (GERMAN) * ALIZARIN S * ALIZARINSULFONATE * CALCOCHROME ALIZARINE RED SC * CARMELITO RUBINE LAKE * CHROME RED ALIZARINE * C.I. 58005 * C.I. MORDANT RED 3 * DIAMOND RED W * 9,10-DIHYDRO-3,4-DIHYDROXY-9,10-DIOXO-2-ANTHRACENESULFONIC ACID MONOSODIUM SALT * EXT D AND C RED NO. 7 * FENAKROM RED W * MITSUI ALIZARINE RED S * OXANAL FAST RED SW * SODIUM ALIZARINESULFONATE * SODIUM ALIZARIN-3-SULFONATE *

SECTION 3. - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -
LABEL PRECAUTIONARY STATEMENTS
IRRITANT
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
CAUSES SEVERE IRRITATION.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - -
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.

SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - -
EXTINGUISHING MEDIA
WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.
UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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Alizarin Red S, monosodium salt

SECTION 6. - - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -
WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -
REFER TO SECTION 8.

SECTION 8. - - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
WASH THOROUGHLY AFTER HANDLING.
DO NOT BREATHE DUST.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
NIOSH/MSHA-APPROVED RESPIRATOR.
COMPATIBLE CHEMICAL-RESISTANT GLOVES.
CHEMICAL SAFETY GOGGLES.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -
DATA NOT AVAILABLE

SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - - -
STABILITY
STABLE.
INCOMPATIBILITIES
STRONG OXIDIZING AGENTS
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
CARBON MONOXIDE, CARBON DIOXIDE
SULFUR OXIDES
SODIUM OXIDES
HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. - - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - - -
ACUTE EFFECTS
CAUSES SKIN IRRITATION.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
CAUSES EYE IRRITATION.
MAY BE HARMFUL IF INHALED.
MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
MAY BE HARMFUL IF SWALLOWED.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
RTECS #: CB1095300
2-ANTHRACENESULFONIC ACID, 9,10-DIHYDRO-3,4-DIHYDROXY-9,10 DIOXO-, MONOSODIUM SALT
TOXICITY DATA
JVN-MUS LD50:70 MG/KG EXPRAN 28,180,1972
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - - -
DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -
CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL.
DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

Safety (MSDS) data for bromothymol blue

General

Synonyms: 3',3"-dibromothymolsolfonphthalein
Use: indicator
Molecular formula: $C_{27}H_{28}Br_2O_5S$
CAS No: 76-59-5
EINECS No:

Physical data

Appearance: purple to pink powder
Melting point: 200 C
Boiling point:
Vapour density:
Vapour pressure:
Density (g cm^{-3}):
Flash point:
Explosion limits:
Autoignition temperature:
Water solubility: negligible

Stability

Stable. Incompatible with strong oxidizing agents.

Toxicology

May act as an irritant.

Toxicity data
(The meaning of any abbreviations which appear in this section is given here.)

Risk phrases
(The meaning of any risk phrases which appear in this section is given here.)

Transport information

(The meaning of any UN hazard codes which appear in this section is given here.)

GFS CHEMICALS, INC.
P.O. Box 245 Powell, OH 43065
740-881-5501(Tel.) 740-881-5989(Fax)
1-800-424-9300(Chemtrec 24Hr. Info.)

MATERIAL SAFETY DATA SHEET

674

BRILLIANT YELLOW

CHEMICAL NAME & SYNONYMS
Brilliant Yellow

DOT CLASS
NR

SARA TITLE 313
No

FORMULA
$C_{26}H_{11}N_4O_7S_2Na_3$

F.W.
624.57

CAS#
3051-11-4

PHYSICAL DATA
Water soluble pH indicator range 6.0 - 8.0 yellow-orange.

APPEARANCE & ODOR
Yellow-orange powder. Odorless.

REACTIVITY & CONDITIONS TO AVOID
No hazardous self-reactivity.

FIRE HAZARDS
Will be consumed in general fire. Avoid inhalation of smoke or fumes.

EXTINGUISHER
Fight surrounding fire

FLASHPOINT	LEL	UEL
N/A	N/A	N/A

HEALTH HAZARDS
Will stain tissue. Internal effects unknown. LD/TD no data. PEL/TLV not established. No evidence of carcinogenicity.

SPECIAL PRECAUTIONS
Use good laboratory practices. Wear goggles while handling.

FIRST AID
Wash up thoroughly with water after contact. If swallowed, give water or milk and induce vomiting. Call a physician.

SPILLS & LEAKS
Wash up with water. Disposal to incinerator or sanitary drain.

CATALOG #
674

PREPARED BY
LM

DATE
7/1/96

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MATERIAL SAFETY DATA SHEET BRILLIANT YELLOW

SECTION I - Product Identification

PRODUCT NAME: BRILLIANT YELLOW FORMULA: C26H 8N4O8S2NA2 FORMULA WT: 624.55 CAS NO.: COMMON SYNONYMS: DIRECT YELLOW 4

CAS 3051-11-4

Precautionary Labeling

N/A

SECTION II - Hazardous Components

N/A

SECTION III - Physical Data

BOILING POINT: N/A VAPOR PRESSURE @ 20C (MM HG): N/A MELTING POINT: N/A VAPOR DENSITY (AIR=1): N/A SPECIFIC GRAVITY: N/A EVAPORATION RATE: N/A (H2O=1) (BUTYL ACETATE=1) SOLUBILITY(H2O): SOLUBLE PERCENT VOLATILES BY VOLUME: N/A APPEARANCE & ODOR: ORANGE POWDER

SECTION IV - Fire and Explosion Hazard Data

FLASH POINT: NONE FLAMMABLE LIMITS: UPPER - N/A % LOWER - N/A % FIRE EXTINGUISHING MEDIA WATER FOG, CO2, DRY CHEMICAL SPECIAL FIRE-FIGHTING PROCEDURES WEAR SELF-CONTAINED BREATHING APPARATUS UNUSUAL FIRE AND EXPLOSION HAZARDS EMITS TOXIC FUMES ON THERMAL DECOMPOSITION

SECTION V - Health Hazard Data

THRESHOLD LIMIT VALUE (TLV/TWA): 5 MG/M3 (RECOMMENDED BY MANUFACTURER) EFFECTS OF OVEREXPOSURE CONTACT WITH EYES AND SKIN MAY RESULT IN IRRITATION. INHALATION OF DUST MAY RESULT IN RESPIRATORY IRRITATION EMERGENCY AND FIRST AID PROCEDURES EYES: FLUSH THOROUGHLY WITH WATER FOR AT LEAST 15 MINUTES SKIN: WASH AFFECTED AREAS THOROUGHLY WITH SOAP AND WATER DUST INHALATION: REMOVE TO FRESH AIR; GIVE ARTIFICIAL RESPIRATION IF NECESSARY INGESTION: IF CONSCIOUS, INDUCE VOMITING

SECTION VI - Reactivity Data

STABILITY: STABLE CONDITIONS TO AVOID: NONE INCOMPATIBILES: OXIDIZERS, POLYMERIZABLE MATERIALS DECOMPOSITION PRODUCTS: COX, SOX, NOX, NH3

SECTION VII - Spill and Disposal Procedures

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE TAKE UP & CONTAINERIZE FOR PROPER DISPOSAL

SECTION VIII - Protective Equipment

MSDS Number: P2070 * * * * * *Effective Date: 05/08/03* * * * * *Supercedes: 07/13/00*

MSDS Material Safety Data Sheet

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865

Mallinckrodt CHEMICALS | J.T.Baker

24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. and Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

PHENOL RED, SODIUM SALT

1. Product Identification

Synonyms: Phenol red, indicator grade (water soluble); phenolsulfonphthalein sodium salt; 4,4'-(3H-2,1-benzoxathiol-3-ylidene) bis-phenol, S,S-dioxide, sodium salt
CAS No.: 34487-61-1
Molecular Weight: 376.36
Chemical Formula: C19H14O5S Na
Product Codes:
J.T. Baker: T265
Mallinckrodt: 4266

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Phenol Red, Sodium Salt	34487-61-1	90 - 100%	Yes

3. Hazards Identification

Emergency Overview

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Torok et al.

PHENOL RED, SODIUM SALT

CAUTION! MAY BE HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

J.T. Baker SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 1 - Slight
Flammability Rating: 0 - None
Reactivity Rating: 0 - None
Contact Rating: 1 - Slight
Lab Protective Equip: GOGGLES; LAB COAT
Storage Color Code: Orange (General Storage)

Potential Health Effects

Inhalation:
May cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath.
Ingestion:
Large oral doses may cause irritation to the gastrointestinal tract. Ingestion effects have not been studied completely but may exhibit symptoms similar to phenolphthalein such as fall of blood pressure or an itching skin rash. May be a strong laxative.
Skin Contact:
May cause irritation with redness and pain.
Eye Contact:
May cause irritation, redness and pain.
Chronic Exposure:
No information found.
Aggravation of Pre-existing Conditions:
No information found.

4. First Aid Measures

Inhalation:
Remove to fresh air. Get medical attention for any breathing difficulty.
Ingestion:
Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.
Skin Contact:
Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.
Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

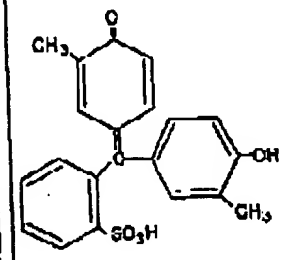
CRESOLRED

NILE CHEMICALS

CRESOL RED

SPECIFICATION SHEET

CAS No.	1733-12-16
Chemical Formula	$C_{21}H_{10}O_5S$
Molecular Weight	382.43
Melting Point	290° c.
Dye Content	~95%
Transition Range	pH 0.5 - pH 1.8 Pink to Yellow pH 7.2 - pH 8.8 Yellow to Purple
Absorptivity(pH 0.5)517 - 520 nm	1180 - 1230
Absorptivity(pH 2.5)432-436 nm	490-540
Absorptivity(pH 6.5)432 - 436 nm	490 - 540
Absorptivity(pH 8.5)571 - 574 nm	1000 - 1050
Loss On Drying (110° c.)	< 5%



PRODUCT LIST HOME

BRIEF MSDS

Hazards identification

- Hazard description:- Not applicable
  Information pertaining to particular dangers for man and environment:-Not applicable

Toxicological information

- Acute toxicity:
  Primary irritant effect:
  on the skin: May cause irritation
  on the eye: May cause irritation
  Sensitization: No sensitizing effects known.

Transport information

Not a hazardous material for transportation.

- DOT regulations:
  Hazard class: None
  Land transport ADR/RID (cross-border)

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USSN 09/768,978
Torok et al.

MSDS Number: C5522 * * * * * *Effective Date: 01/03/03* * * * * *Supercedes: 01/31/00*

MSDS Material Safety Data Sheet

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865

J.T.Baker

24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300
National Response in Canada
CANUTEC: 613-996-6666
Outside U.S. And Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

m-Cresol Purple

1. Product Identification

Synonyms: m-Cresolsulfonphthalein
CAS No.: 2303-01-7
Molecular Weight: 382.44
Chemical Formula: C21H18O5S
Product Codes: F860

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
m-Cresol Purple	2303-01-7	90 - 100%	Yes

3. Hazards Identification

Emergency Overview

CAUTION! MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

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Torok *et al.*

m-Cresol Purple

SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 1 - Slight
Flammability Rating: 0 - None
Reactivity Rating: 0 - None
Contact Rating: 1 - Slight
Lab Protective Equip: GOGGLES; LAB COAT; PROPER GLOVES
Storage Color Code: Green (General Storage)

Potential Health Effects

Inhalation:
May cause irritation to the respiratory tract.
Ingestion:
Large oral doses may cause irritation to the gastrointestinal tract.
Skin Contact:
May cause irritation with redness and pain.
Eye Contact:
May cause irritation, redness and pain.
Chronic Exposure:
No information found.
Aggravation of Pre-existing Conditions:
No information found.

4. First Aid Measures

Inhalation:
Remove to fresh air. Get medical attention for any breathing difficulty.
Ingestion:
Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.
Skin Contact:
Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.
Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

5. Fire Fighting Measures

Fire:
Not considered to be a fire hazard.

Material Safety Data Sheet
Thymol Blue

ACC# 60620

Section 1 - Chemical Product and Company Identification

MSDS Name: Thymol Blue
Catalog Numbers: T416 5, T4165
Synonyms: Thymolsulfonephthalein
Company Identification:
Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
For Information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
76-61-9	Thymol blue	100	200-973-3

Hazard Symbols: None listed.
Risk Phrases: None listed.

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: green-red to brown. **Caution!** The toxicological properties of this material have not been fully investigated. May cause irritation.
Target Organs: None.

Potential Health Effects
Eye: May cause eye irritation.
Skin: May cause skin irritation.
Ingestion: May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated.
Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.
Chronic: No information found.

Section 4 - First Aid Measures

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Torok et al.

BUTZEL LONG
ATTORNEYS AND COUNSELORS

Suite 200
100 Bloomfield Hills Parkway
Bloomfield Hills, MI 48304-2949
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TRANSMITTAL FORM

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Total Number of Pages in This Submission

Application Number	09/758,978
Filing Date	January 13, 2001
First Named Inventor	Brian Toruk
Art Unit	3736
Examiner Name	Robert L. Nasser
Attorney Docket Number	133114-02CP

ENCLOSURES *(Check all that apply)*

- [X] Fee Transmittal Form
- [ ] Fee Attached
- [ ] Amendment / Reply
- [ ] After Final
- [ ] Affidavit/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
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- [ ] Response to Missing Parts/ Incomplete Application
- [ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53
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- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
- [ ] Landscape Table on CD
- [ ] After Allowance Communication to TC
- [ ] Appeal Communication to Board of Appeals and Interferences
- [X] Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
- [ ] Proprietary Information
- [ ] Status Letter
- [ ] Other Enclosure(s) (please identify below):

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Butzel Long
Signature	
Printed name	Thomas T. Moga
Date	October 3, 2005
Reg. No.	34,881

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Typed or printed name	Thomas T. Moga		

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Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL for FY 2005

☒ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) $250.00

Complete If Known	
Application Number	09/758,978
Filing Date	January 12, 2001
First Named Inventor	Brian Turok
Examiner Name	Robert L. Nasser
Art Unit	3736
Attorney Docket No.	113114-01CP

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): ____

☒ Deposit Deposit Account Number: 12-3136 Deposit Account Name: Butzel Long

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee

☒ Charge any additional fee(s) or any underpayment of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES Fee ($)	FILING FEES Small Entity Fee ($)	SEARCH FEES Fee ($)	SEARCH FEES Small Entity Fee ($)	EXAMINATION FEES Fee ($)	EXAMINATION FEES Small Entity Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

	Multiple Dependent Claims Fee ($)	Fee Paid ($)

Total Claims	Extra Claims	Fee ($)	Fee Paid ($)
____ - 20 or HP =	____	x $25.00	= $0.00

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee ($)	Fee Paid ($)
____ - 3 or HP =	____	x $100.00	= $0.00

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listing under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
____ - 100 =	0	/ 50 0 (round up to a whole	x $125.00	= $0.00

4. OTHER FEE(S) Fee Paid ($)

Non-English specification, $130 fee (no small entity discount)

Other (e.g., late filing surcharge): Fee for Reply Brief $250.00

SUBMITTED BY					
Signature		Registration No. (Attorney/Agent)	34,881	Telephone	(248) 258-4496
Name (Print/Type)	Thomas T. Moga			Date	October 3, 2005

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